



TABLE OF CONTENTS

CONSENT THESIS	ii
APPROVAL SHEET	iii
DECLARATION OF ACADEMIC INTEGRITY	iv
PREFACE	v
TABLE OF CONTENTS.....	vi
LIST OF FIGURES	ix
LIST OF TABLES	x
INTISARI	xi
ABSTRACT	xii
CHAPTER I INTRODUCTION	1
1.1 Background	1
1.2 Problem Statement	3
1.3 Research Questions and Objectives	3
1.3.1 Research Questions	3
1.3.2 Research Objectives	4
1.4 Scope of Study	4
1.5 Benefits of Research	4
1.6 Dissertation Structure	5
CHAPTER II LITERATURE REVIEW	6
2.1 Colour Blind	6
2.1.1 Definition of Colour Blind	6
2.1.2 Type of Colour Blind	8
2.1.3 Causes of Colour Blindness.....	11
2.2 Challenges Faced by Colour Blindness	12
2.3 Design Considerations for colour-blind-friendly Maps	14
2.4 Case Study and Best Practice.....	16



2.4.1	London Tube Map	16
2.4.2	Madrid Metro Map	17
2.4.3	Wiener Linien Maps	17
2.5	Originality of Study	18
CHAPTER III THEORITICAL BACKGROUND.....		19
3.1	Accessibility Theory	19
3.2	Transport Integration.....	19
3.3	Universal Design.....	20
3.4	Hypothesis Test.....	21
3.5	Normality Test.....	21
3.6	T-Test	22
3.6.1	One sample t-test	22
3.6.2	Paired sample t-test.....	22
3.6.3	Independent sample t-test	23
CHAPTER IV METHODOLOGY RESEARCH		24
4.1	Research Scope	25
4.2	Data Collection Method.....	25
4.2.1	Primary Data.....	25
4.2.2	Secondary Data.....	29
4.3	Analysis Method	29
4.3.1	Descriptive Analysis	29
4.3.2	Normality Test	29
4.3.3	T-test	30
4.4	Software Usage	30
4.4.1	Corel Draw	30
4.4.2	Color Oracle	30
4.4.3	Microsoft Excel	30



4.4.4 Statistical Package for the Social Sciences (SPSS) for Statistics.....	30
CHAPTER V ANALYSIS AND FINDINGS	31
5.1 Data and Sample Description	31
5.2 Public Transportation Issues	34
5.2.1 Public Transport Usage Habits	34
5.2.2 Problems encountered.....	37
5.2.3 The role of transport maps.....	39
5.3 The Design of Colour-Blind Friendly Public Transport Map	41
5.3.1 Modification of Line types and Colour Palettes.....	42
5.3.2 Application of icons and labels	44
5.3.3 Utilisation of Colour-Blind Simulation	45
5.4 The Effect of The Map Design	46
5.4.1 Effect of modification map design for colour blindness and normal vision .	46
5.4.2 Differences in the results of colour blindness and non-colour blindness	48
5.5 Summary	50
CHAPTER VI CONCLUSIONS.....	52
6.1 Summary of Findings.....	52
6.1.1 Summary of research	52
6.1.2 Key Findings	52
6.2 Recommendations.....	52
6.2.1 Policy Recommendations	52
6.2.2 Research Recommendations.....	53
6.2.3 Future Research	53
REFRENCE LIST	54